

PATENT ABSTRACTS OF JAPAN

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KOBAYASHI KENICHI****(54) SEMICONDUCTOR LASER****(57) Abstract:**

PROBLEM TO BE SOLVED: To provide a low threshold value, a low driving current and long term reliability by doping saturable absorption layer having a band gap substantially equal to an active layer with oxygen in addition to an impurity for generating a conductivity type of a clad layer.

SOLUTION: A p-type saturable absorption layer 35 is provided between p-type AlGaInP clad layers 31 and 32, and doped with oxygen to generate a nonradiative recombination center, thereby dissipating minority carrier. Thus, saturation of minority carrier lifetime of the layer 35 is lowered, and hence saturable absorption amount necessary for a self-oscillation is reduced. In this manner, a semiconductor laser having a low threshold value, a low driving current and high reliability is obtained.

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